



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/882,222	06/15/2001	Zhixin Li	1897A.ALC	9268

7590 12/18/2003

Thomas F. Roland
NATIONAL STARCH AND CHEMICAL COMPANY
10 Funderne Avenue
Bridgewater, NJ 08807-0500

EXAMINER

FALASCO, LOUIS V

ART UNIT PAPER NUMBER

1773

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/882,222

Applicant(s)

LI ET AL.

Examiner

Louis Falasco

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 1773

PAPERS RECEIVED

This application is acknowledged as RCE, SN 09/882222.

The amendment received 08/21/03 has been entered as paper #10.

CLAIMS

The claims are 1 and 25.

ACTIONS

In view of the entry of the amendment received 08/21/03 - paper #10, rejections made in the previous Office action have been withdrawn.

Answer to arguments

Applicant's arguments in the amendment with respect to claims under consideration have been considered but are moot in view of the new grounds of rejection.

Statutory Basis

The text of the statutory bases not found in this action can be found in a previous Office Action.

Rejections

Claims 1 and 25 rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted state of the prior art taken with the teachings of **Fischer et al** (US 6380315) and **Shin et al** (US 6593404).

Admittedly it has been known to include a release composition as ingredient in a product intended to be produced in mold (*cf.* specification page 2 lns 24-26) and it's known to include surfactants and dispersants which inherently have hydrophilic/hydrophobic portions (*cf.* specification page 3 lns 5-25).

The admissions do not acknowledge an emulsion polymer formed from a *hydrophobic* monomer and a *hydrophilic* monomer nor a Tg of at least -10 degree C. However **Fischer et al** teaches the essential requirements of these claims of a molding composition including an emulsion polymer formed from a hydrophobic monomer of: acrylics, methacrylates, vinyl acetate, ethylene or styrene; and hydrophilic monomer of: considering hydroxyethyl acetate, acrylonitrile, 2-(dimethylamino)ethyl(meth)-acrylate, 3,[(methacryloylamino)propyl]trimethylammonium chloride, 2-acrylamido-2-methyl-1-propanesulfonic acid sodium salt, 2-(acryloyloxy)-ethyltrimethyl-ammonium chloride, acrylic acid or methacrylic acid.

In **Fischer et al** see molding utility, col. 1 lns 8, and emulsion polymer of hydrophobic and hydrophilic monomer and emulsion polymerization at col. 7 ln 43, col. 17 ln 49 hydrophobic monomers of col. 11 lns 6-10 hydrophilic monomers of col. 11 lns 14-24.

The instant claims are drafted in closed language i.e., "consisting of" language for the monomers excluding any element or ingredient not specified in the claim (*In re Gray*, 53 F.2d 520, 11 USPQ 255 (CCPA 1931)) and so the polymers formed in **Fischer et al** only need have a hydrophobic and a hydrophilic monomer selected – see specific monomers of col. 11 lns 25 – col. 12 ln 50 and specified monomers of col. 18 ln 12, 15 including vinyl monomers such as styrene (*cf* instant claim 25) and methacrylic acids (*cf* instant claim 25) as well as methacrylates and acrylics - col. 4 lns 38 – 49, col. 9 lns 3-16. A single monomer from the hydrophobic monomer grouping and a single hydrophilic monomer may be selected as exemplified by the process of preparation in the presence of radicals displacing one or a mixture of chain endings – col. 6 ln 60.

Fischer et al does not teach a degree of polymerization yielding a Tg below -10°C, as required by the claims. However **Shin et al** teaches a Tg of below -10°C, showing this is desirable for styrene and alkyl substituted polymers to adapt for intended use as releasable moldings.

In **Shin et al** see mold release functionality col. 1 ln 12, 14; col. 3 ln 63 and Tg of below -10°C col. 4 ln 59.

It is the examiners position that it would have been *prima facie* obvious to one of ordinary skill at the time the invention was made to adopt the single monomer from the hydrophobic monomer grouping and a single hydrophilic monomer from **Fischer et al** in the known prior art surfactants and dispersants containing moldings of the

Art Unit: 1773

admissions for the purpose of efficiently producing polymer moldings and select a T_g of below -10°C as shown by **Shin et al** for the purpose of providing molding with increased resistance to stress cracking (col. 1 ln 16).

One skilled in the art would have been motivated to adapt the teachings of **Fischer et al** and **Shin et al** in the **admissions** with expectation of efficiently obtaining a molded article (col. 1 ln 20 **Fischer et al**) of increased processibility and improved strength (col. 1 lns 27, 28 **Shin et al**).

OTHER REFERENCES

Solomon et al (US 4581429) is cited as being of interest since it is cited in the **Fischer et al** patent at col. 13 ln 51 for exemplified amphiphilic polymers.

Tanaka et al (US 4492783) is cited as being of interest illustrating the convention of having multiple hydrophobic and hydrophilic monomer groupings on a molding polymer.

CONCLUSION

No claim has been allowed in this action.

Art Unit: 1773

INQUIRES

Any inquiry concerning this communication from the examiner should be directed to examiner Louis Falasco whose telephone number is (703)305-6974 or (571)272-1507. The examiner can normally be reached M-F 9:30 AM - 6:00 PM.

- If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Paul Thibodeau may be reached at (703)308-2367 or (571)272-1516.
- The Fax phone numbers for the organization where this application or proceeding is assigned are: 703.872-9310 for regular communications and 703.872-9311 for After Final communications.
- An inquiry of a general nature or relating to status of this application or proceeding should be directed to the TC 1700 receptionist whose telephone number is 703.308-0651.

✓
LF
12/03


STEVAN A. RESAN
PRIMARY EXAMINER